

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY

August 6, 1992

SUBJECT: Bangladeshi Request for Information on Lead and Cadmium
in Fertilizer

FROM: David Bussard, Director
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TO: Susan Bromm, Director
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Office of Waste Programs Enforcement

We understand that your office will be responding to the Bangladeshi government's request for information on "acceptable" levels of lead and cadmium in zinc phosphate fertilizer, especially with regard to how the presence of these two elements in fertilizer can negatively affect human health. I hope that the following information is helpful in drafting the response.

In the U.S., hazardous wastes (including commercial products produced for the general public's use that use hazardous wastes as ingredients, such as hazardous waste-derived fertilizer) must meet specific concentration levels before being placed on the land (i.e., the land disposal restrictions treatment standards). These levels are based on the treatment performance achievable by the Best Demonstrated Available Technology (BDAT) for treating a particular type of waste and generally specify the concentration levels for the hazardous constituents of concern.

These treatment standards, which also apply to hazardous waste-derived fertilizers, are not based on a specified level of risk posed to human health or the environment from land application of these wastes. EPA did not make a determination in the land disposal restrictions rulemakings as to "acceptable" contaminant levels based on health risk. It is important to note, however, that in order for any hazardous waste-derived product that is placed on the land to be exempt from regulation as a hazardous waste, the waste-derived product must be a legitimate product, whose performance and hazardous constituent concentrations compares significantly similar to analogous products that are not derived from hazardous wastes.

Thus, for hazardous waste-derived fertilizers the product must be a legitimate product and the applicable treatment standards for the hazardous wastes used as ingredients must be met for the fertilizer to be exempt from regulation as a hazardous waste. For example, before a fertilizer produced using a waste that is hazardous because it exhibits the toxicity characteristic for lead can be placed on the land, the treatment standard for the lead (5.0

mg/l using the Toxicity Characteristic Leaching Procedure) must be met.

However, an exception to this rule is zinc-containing fertilizer produced for the general public's use using K061 hazardous waste (electric arc furnace dust), which is exempt from these regulatory limits. As stated in the August 17, 1988, preamble to the First Third Land Disposal Restrictions Rule, EPA promulgated this exemption to the land disposal restrictions for zinc-based fertilizers produced with K061 for the following reasons:

- (1) Existing data appear to indicate that application of these fertilizers to the crops to which zinc-based fertilizers are applied does not pose significant risk from either a food chain contamination pathway or a groundwater contamination pathway; and
- (2) Constituent levels (and levels of extractable metals) of some of the toxic metals in zinc-based fertilizers are virtually the same, whether or not the fertilizers contain K061.

EPA's Health and Ecological Criteria Division within the Office of Water is currently involved in a rulemaking project which may set regulatory limits for certain constituents in sewage sludge being applied to the land. Al Rubin, Chief of the Sludge Risk Assessment Branch (260-1306), may be a source of additional information on risks associated with land application of sewage sludge containing lead and cadmium.

I hope this information is helpful to you in preparing the response to the Bangladesh government.

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